**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
RICHMOND DIVISION**

SAMSUNG ELECTRONICS CO., LTD. and SAMSUNG ELECTRONICS AMERICA, INC.,	)))))))))))))))))))	Civil Action No. 3:14-cv-757-REP
Plaintiffs,		
-vs.-		
NVIDIA CORPORATION, OLD MICRO, INC. F/K/A VELOCITY MICRO, INC., AND VELOCITY HOLDINGS, LLC,		
Defendants.		

**DEFENDANTS' MEMORANDUM IN SUPPORT OF THEIR MOTION FOR
JUDGMENT ON THE PLEADINGS OF INVALIDITY UNDER 35 U.S.C. § 101**

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Cases

Statutes

In this action, Plaintiffs Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, "Samsung") allege that Defendants infringe several patents, including U.S. Patent No. 6,262,938 ("'938 patent") (attached as Ex. A).   Defendants respectfully move for judgment on the pleadings pursuant to Federal Rule of Civil Procedure 12(c) that the asserted '938 patent claims are invalid as a matter of law for lack of patent-eligible subject matter under 35 U.S.C. § 101.

I.   INTRODUCTION

The Supreme Court has repeatedly emphasized that abstract ideas, including mental processes and formulas, may not be removed from the public domain by our patent laws and are ineligible for protection under § 101. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014); *Parker v. Flook*, 437 U.S. 584, 593 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 64, 67 (1972). Such ideas are "free to all ... and reserved exclusively to none." *Bilski v. Kappos*, 561 U.S. 593, 602 (2010) (citation and quotation marks omitted). And that principle cannot be circumvented merely by limiting an idea to a particular technological environment or implementing it using generic computer components and functions. *Alice*, 134 S. Ct. at 2359-60. In a series of recent cases, the Supreme Court and Federal Circuit have held invalid numerous patent claims in the field of computer technology under § 101. *See, e.g.*, *id.*; *Intellectual Ventures I LLC v. Capital One Bank (USA), N.A.*, --- F.3d ----, 2015 WL 4068798, at *3-7 (Fed. Cir. July 6, 2015); *Content Extraction & Transmission LLC v. Wells Fargo Bank, NA*, 776 F.3d 1343, 1349 (Fed. Cir. 2014); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014).

The asserted claims of the '938 patent suffer from this same fundamental defect. They are directed to a classic abstract idea—the concept of delaying, as necessary, to ensure sufficient time between two actions. Humans have long used that same concept. For example, people are

1

supposed to wait 30 minutes after eating before going swimming. If a child arrives at the pool too early—say, 20 minutes after lunch—she must wait another 10 minutes. Similarly, certain medications cannot be taken until at least 30 minutes after eating. If a patient is handed a pill at minute 25, he must wait another 5 minutes before taking it.

The asserted claims merely describe that abstract idea in the context of a technological environment—by providing that a memory chip waits a certain amount of time after performing one action (a "row access command") before performing a second action (a "column access command"). Although at first glance, the claims might appear complex (because they use certain industry-standard acronyms and recite an arithmetic calculation), they boil down (by Samsung's own admission) to a simple concept: if the second command arrives too soon after the first command, the memory chip must wait to execute it. As Samsung itself acknowledged, "the nub of the invention" is "delaying commands so that they can be processed." D.I. 184 ("Tech Tr.") at 175:12-16. That is all.

Beyond that abstract concept, the claims recite only generic computer components and generic computer functions, without disclosing any inventive hardware or programming. But under established Supreme Court and Federal Circuit case law, such computer features are insufficient to convert an abstract idea into patent-eligible subject matter. *See, e.g.*, *Alice*, 134 S. Ct. at 2355-59; *Benson*, 409 U.S. at 64, 67; *Ultramercial*, 772 F.3d at 715-16.

Because the '938 patent claims are ineligible on their face as a matter of law under § 101, Defendants respectfully request judgment on the pleadings.

II.   BACKGROUND

A.   Procedural History

In this action, Samsung alleges infringement of several patents, only one of which (the '938 patent) is at issue in this motion. *See* D.I. 1 ¶ 10 (complaint). On June 3, 2015, the parties

presented a technology tutorial, explaining how computer memory and the purported inventions operate. Tech Tr. The Court held a claim construction hearing on June 29, 2015, D.I. 214 at 123-74, 207-55, and issued an opinion and order construing the terms on July 30, 2015, D.I. 221 ("CC Op."); D.I. 222.

B.   The '938 Patent

The '938 patent, entitled "Synchronous DRAM Having Posted CAS Latency And Method For Controlling CAS Latency," relates to determining whether a memory access instruction must be delayed to ensure that it is not processed too soon after a prior instruction. As Samsung explained, "the nub of the invention" is "delaying commands so that they can be processed." Tech. Tr. at 175:12-16. At most, the claims require performing a simple arithmetic computation and comparing numbers to determine whether a delay is necessary.   But, as Samsung admitted, even that simple computation is not always required.   *See* D.I. 181 ("Samsung CC Br.") at 25 ("computation" is not always required).

As the specification explains, an "SDRAM" is a "conventional" type of computer memory—a piece of hardware that stores information in a "memory bank" with cells arranged in rows and columns. '938 patent at 1:59, 2:9-11.[1] When the computer processor needs to access data in the memory, it sends the SDRAM a "row access command" (which the SDRAM executes to access the proper row) and a "column access command" (which the SDRAM executes to access the proper column). *See id.* at 7:1-5.[2] Due to inherent hardware constraints in all SDRAM, however, the SDRAM has to wait a minimum period of time *after* receiving the row access command *before* it can execute the column access command. *See* '938 patent at 1:40-45; Tech Tr. at 165:5-7, 165:14-20. This minimum period of time is called RCL_{min}.

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[1] SDRAM is synchronous dynamic random-access memory. Tech Tr. at 119:8-11, 156:21-22.

[2] The SDRAM accesses the proper row and column using a "decoder." '938 patent at 2:11.

The alleged invention of the '938 patent is that if the column access command is sent early, *i.e*, before "RCL_{min}," the SDRAM just waits until RCL_{min} to execute it. *See, e.g.*, '938 patent at 4:36-56; Tech Tr. at 168:11-17. The following flowchart from the '938 patent illustrates the alleged invention, which at bottom, is nothing more than basic arithmetic to determine if the SDRAM should wait to execute the column access command until RCL_{min} has elapsed.

FIG. 6

START — 601

INPUT RCL min — 603   **What is the minimum?**

MEASURE RCL — 605   **When did the command arrive?**

YES   RCD < RCL min   NO   **Did the command arrive early (before the minimum)?**

609   607   611   **If yes, delay
If no, don't delay**

CL=RLmin - RCL   CL=CLmin

END
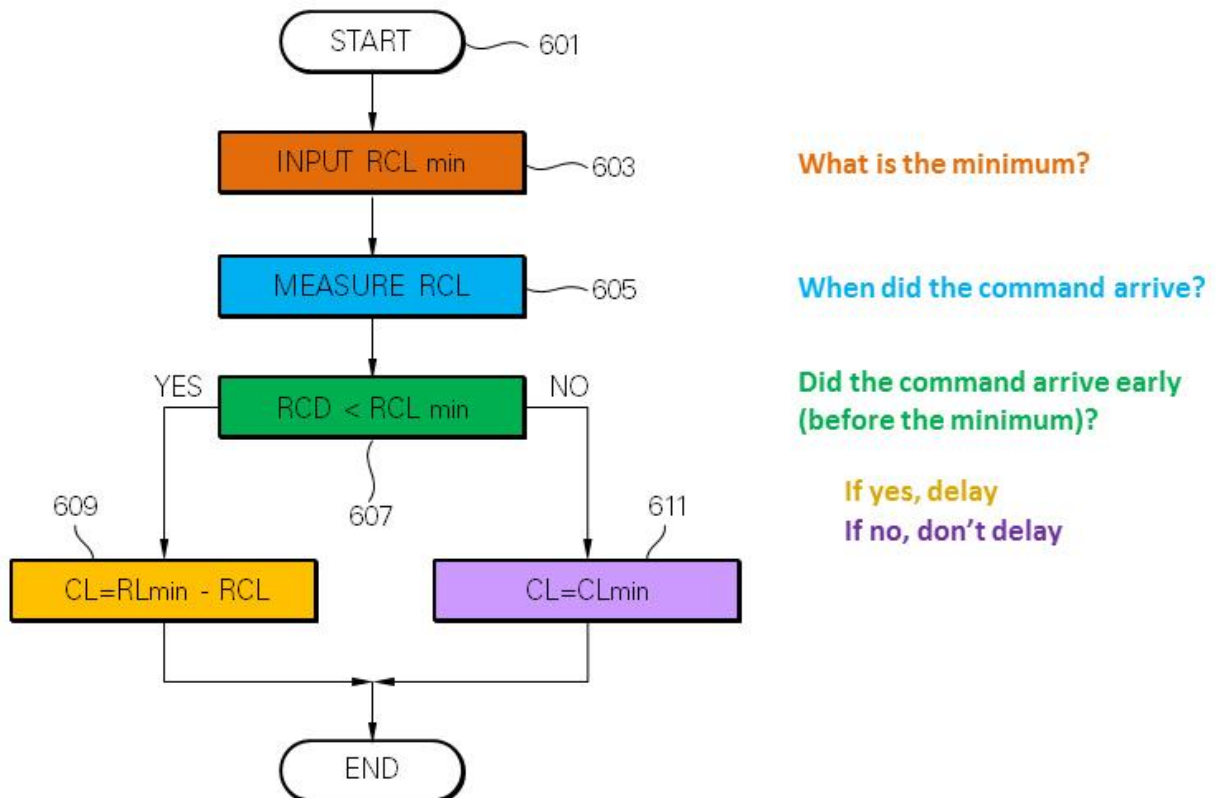
'938 patent at fig. 6 (annotation and coloring added).

4

The patent describes the various access commands and time periods using labels and acronyms that are common in the industry:

- "RAS" is the row access command. The "RAS latency" (also called "RL") is the time between the SDRAM receiving the row access command and the SDRAM ultimately outputting the stored data.

- "CAS" is the column access command. The "CAS latency" (also called "CL") is the time between the SDRAM receiving the column access command and the SDRAM outputting the stored data.

- "RCL" is the length of time between the SDRAM's receipt of the row access command and the SDRAM's receipt of the column access command.

See '938 patent at 1:21-29. In other words, RL = RCL + CL as illustrated here:
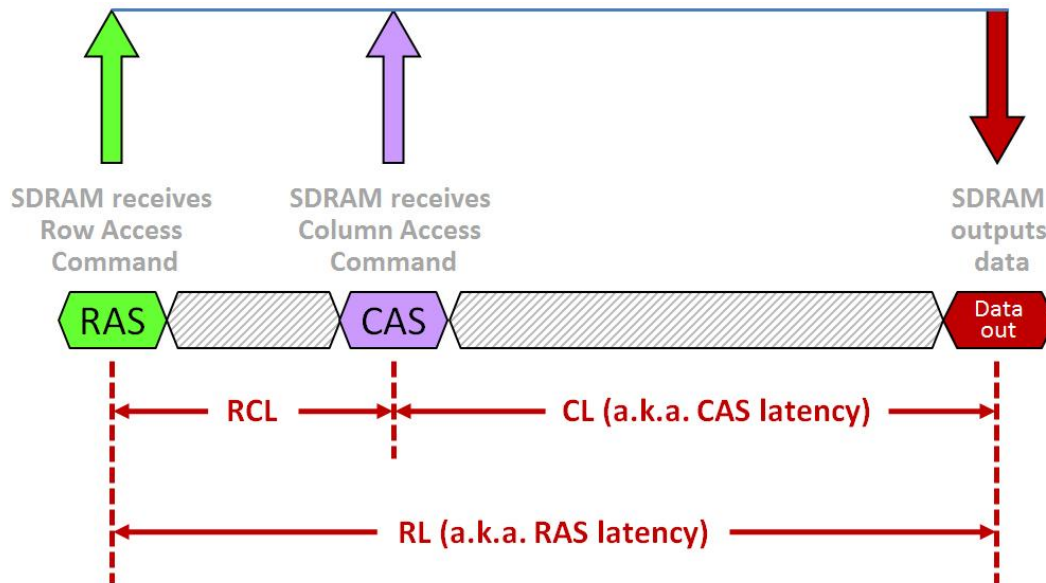
See id. at 1:30-32.

The minimum possible time periods allowed by the SDRAM hardware are known as "RL_{min}," "RCL_{min}," and "CL_{min}," respectively. *Id.* at 1:37-46. That is, $RL_{min} = RCL_{min} + CL_{min}$. The key minimum is RCL_{min}—the minimum time that must elapse between the receipt of the row

5

access command (RAS) and receipt of the column access command (CAS). The computer may issue the CAS early. That is, RCL—the *actual* time between the receipt of the RAS and receipt of the CAS—may be less than the *minimum* time, RCL_{min}, as illustrated below. In that case, the SDRAM must wait a period of time before it can execute the CAS, as also illustrated below: the gray dotted line, showing when RCL_{min} has elapsed, is the soonest the CAS can be executed.
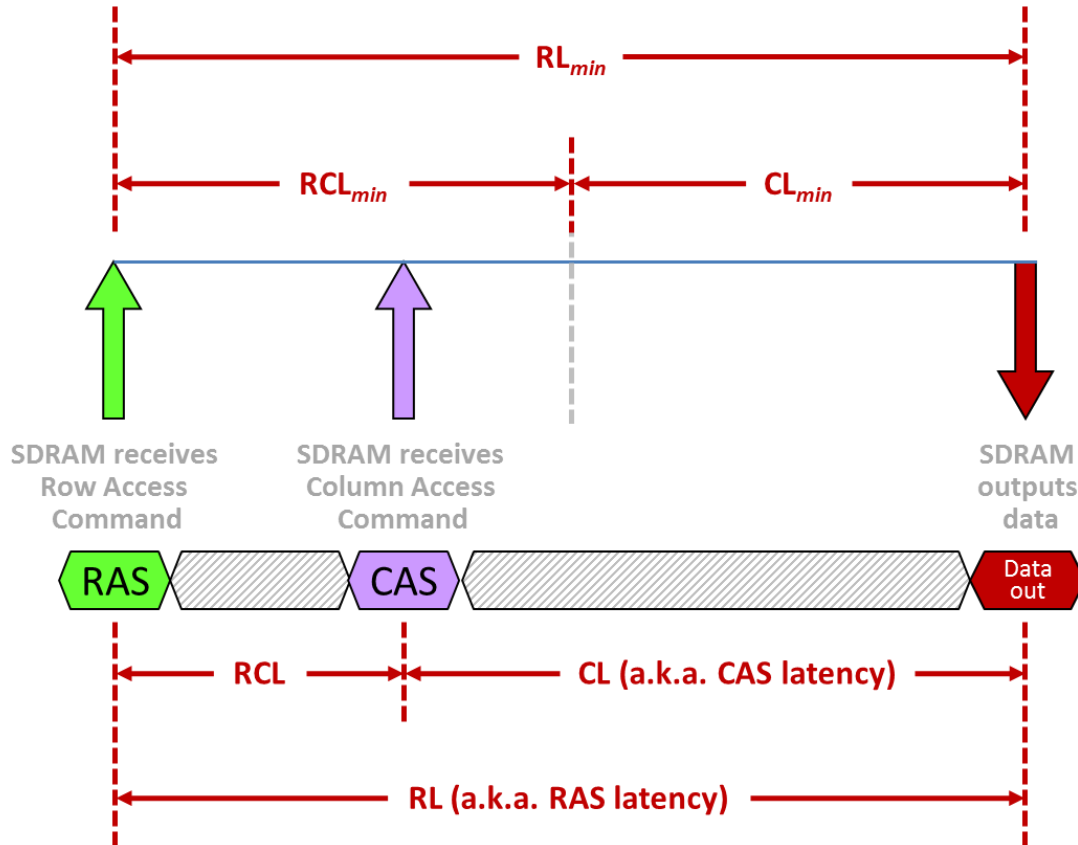
See '938 patent at 1:40-67; Tech Tr. at 166:22-169:13.

In this scenario, the CAS latency (CL) will be the difference between RL_{min} and RCL, as shown above. On the other hand, if the computer does not issue the CAS early (*i.e.*, RCL is *not* less than RCL_{min}), then the SDRAM can execute the CAS as soon as it is received and the CAS latency will just be the minimum (CL_{min}).

6

The patent claims express that delay concept as a basic conditional algorithm—*i.e.*, if the SDRAM receives the column access command (the CAS) too soon then the SDRAM must wait before executing it and, otherwise, the SDRAM does not need to wait. There are five asserted claims of the '938 patent (apparatus claims 17, 19, and 20 and method claims 23 and 24). Claim 19 is representative for purposes of this motion and the purportedly inventive delay algorithm is highlighted in the last "wherein" clause below:

> **19.** A synchronous DRAM (SDRAM), comprising:
>
> a memory bank having a plurality of memory cells arranged in rows and columns; and
>
> a decoder for selecting one of the memory cells based on a column address and a row address,
>
> wherein RL_{min} is the minimum number of clock cycles of the clock signal required from the application of a row access command to the output of the data of the selected memory cell,
>
> wherein CL_{min} is the minimum number of clock cycles of the clock signal required from the application of a column access command to the output of the data of the selected memory cell,
>
> wherein RCL is the number of clock cycles of the clock signal from the application of a row access command to the application of a column access command with respect to the memory bank, and
>
> wherein a CAS latency, which is the number of clock cycles of the clock signal required from the application of the column access command to the output of data, is determined to be $(RL_{min} - RCL)$ when RCL is less than $[RCL_{min}]$, and is determined to be CL_{min} when RCL is not less than $[RCL_{min}]$.[3]

The other asserted independent claims (claims 23 and 24) and unasserted independent claim 8 (from which asserted claim 17 depends) describe the same delay concept. Claims 23 and 24 restate the delay concept as a method rather than an apparatus. Claim 8 states that the SDRAM uses a standard computer component (a "delay counter") to determine whether the column access command arrives too soon and, if so, uses another standard computer component (a "shift register") to delay execution of the column access command by the necessary amount of

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[3] The claims reference $(RL_{min} - CL_{min})$, which equals RCL_{min}. '938 patent at 1:45; *supra* at 5-6.

time.[4]   The two asserted dependent claims state that the delay clock signal is provided from outside the SDRAM (claim 17) and that RCL_{min} is input from outside the SDRAM (claim 20). None of the claims recites any specialized hardware or software for implementing the delay and "[t]he patent does not disclose or require where the determination [of the timing values] occurs." *See* Samsung CC Br. at 26.

III.   LEGAL STANDARD

Motions for judgment on the pleadings under Rule 12(c)—like motions to dismiss under Rule 12(b)(6)—should be granted if the complaint lacks a cognizable legal theory. *See Priority Auto Grp., Inc. v. Ford Motor Co.*, 757 F.3d 137, 139 (4th Cir. 2014). Patent-eligibility under § 101 is a question of law suitable for resolution at the pleading stage, as the Federal Circuit has repeatedly held. *See Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1344 (Fed. Cir. 2015) (affirming pleading-stage judgment of invalidity under § 101); *Content Extraction*, 776 F.3d at 1349 (same); *Ultramercial*, 772 F.3d at 711-12 (same). Likewise, courts in this District and elsewhere have routinely found claims ineligible at the pleading stage. *See, e.g.*, *MicroStrategy Inc. v. Apttus Corp.*, --- F. Supp. 3d ----, 2015 WL 4425828 (E.D. Va. July 17, 2015); *In re TLI Commc'ns LLC Patent Litig.*, --- F. Supp. 3d ----, 2015 WL 627858 (E.D. Va. Feb. 6, 2015); *CertusView Techs., LLC v. S&N Locating Servs., LLC*, --- F. Supp. 3d ----, 2015

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[4] Claims 8 and 24 assess whether the column access command has been received too soon by comparing RCL to "SAE," which is the same, for practical purposes of this motion, as RCL_{min}. SAE is the time between the row access command and the point at which the sense amplifier is enabled, which occurs right before the column access command can be executed. *See, e.g.*, '938 patent at 3:47-4:4, 11:1-17; *see also* U.S. Pat. No. 5,835,956 at 13:29-37, 21:25-39, Fig. 10 (cited at '938 patent, cover page). Similarly, RCL_{min} is the time between the row access command and the point at which the column access command can be executed.

WL 269427 (E.D. Va. Jan. 21, 2015); *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 56 F. Supp. 3d 813 (E.D. Va. 2014).[5]

The courts have thus made clear that § 101 is an important "threshold" test, *Bilski*, 561 U.S. at 602, and that it is necessary to resolve the issue early in the litigation to minimize "'expenditure of time and money by the parties and the court,'" to guard against "vexatious infringement suits," and to "protect[] the public" from illegitimate patents that improperly monopolize the public store of knowledge. *Ultramercial*, 772 F.3d at 719 (Mayer, J., concurring) (quoting *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 558 (2007)).

IV.   ARGUMENT

Section 101 of the Patent Act provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. The Supreme Court's two-step framework from *Alice* governs whether computer-implemented patent claims pass § 101's gateway eligibility threshold. *See Alice*, 134 S. Ct. at 2355.

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[5] *See also, e.g.*, *IPLearn-Focus, LLC v. Microsoft Corp.*, No. 14-cv-151, 2015 WL 4192092 (N.D. Cal. July 10, 2015); *Smart Sys. Innovations, LLC v. Chicago Transit Authority*, No. 14-C-08053, 2015 WL 4184486 (N.D. Ill. July 10, 2015); *Pragmatus Telecom, LLC v. Genesys Telecommc'n. Labs.*, --- F. Supp. 3d ----, 2015 WL 4128963 (D. Del. July 09, 2015); *FairWarning IP, LLC v. Iatric Sys., Inc.*, No. 8:14-cv-2685, 2015 WL 3883958 (M.D. Fla. June 24, 2015); *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, --- F. Supp. 3d ----, 2015 WL 2341074 (N.D. Tex. May 15, 2015); *Jericho Sys. Corp. v. Axiomatics, Inc.*, No. 3:14-CV-228, 2015 WL 2165931 (N.D. Tex. May 07, 2015); *Wireless Media Innovations, LLC v. Maher Terminals, LLC*, Nos. 14-7004, 14-7006, 2015 WL 1810378 (D.N.J. Apr. 20, 2015); *Shortridge v. Found. Constr. Payroll Serv., LLC*, No. 14-cv-04850, 2015 WL 1739256 (N.D. Cal. Apr. 14, 2015); *Advanced Auctions LLC v. eBay Inc.*, No. 13CV1612, 2015 WL 1415265 (S.D. Cal. Mar. 27, 2015); *Tuxis Techs., LLC v. Amazon.com, Inc.*, No. 13-1771, 2015 WL 1387815 (D. Del. Mar. 26, 2015); *Clear with Computers, LLC v. Altec Indus., Inc.*, No. 6:14-cv-79, 2015 WL 993392, at *4 (E.D. Tex. Mar. 3, 2015); *Essociate, Inc. v. Clickbooth.com, LLC*, No. 13-01886, 2015 WL 1428919 (C.D. Cal. Feb. 11, 2015).

At step one of the *Alice* framework, the Court must determine whether the asserted claims are drawn to an underlying abstract idea. *Id.* As the Supreme Court has long recognized, § 101 "contains an important implicit exception" for abstract ideas. *Id.* at 2354; *see also Flook*, 437 U.S. at 593; *Benson*, 409 U.S. at 67. Such ideas are not patent eligible because they are basic tools in the "storehouse of knowledge" that are "free to all ... and reserved exclusively to none." *Bilski*, 561 U.S. at 602. "'[M]onopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it,' thereby thwarting the primary object of the patent laws." *Alice*, 134 S. Ct. at 2354 (alteration original) (citation omitted).

Importantly, at *Alice* step one, an abstract idea "does not become nonabstract by limiting [it] to a … technological environment," such as a computer. *Intellectual Ventures*, 2015 WL 4068798, at *2. The Court must determine whether, notwithstanding such computer implementation, the "heart" of the claims—the "'most important aspect'"—amounts to an abstract idea. *See Ultramercial*, 772 F.3d at 714 (identifying abstract idea at the "heart" of computer implemented claims at step one); *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336 (Fed. Cir. 2013) (same); *Internet Patents Corp.*, 790 F.3d at 1348 (determining that "essential, 'most important aspect'" amounted to abstract idea at step one).

At *Alice* step two, the Court must determine whether the other claim elements add "an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." 134 S. Ct. at 2357 (citation omitted). The prohibition on patenting abstract ideas cannot be circumvented through mere "'draftsman's art,'" or by trying to dress up an abstract idea with inconsequential steps or features. *Id.* at 2359 (citation omitted). Simply implementing an abstract principle using well-known computer components and functions, limiting the idea to

a particular technological environment, or adding data-gathering steps or extra-solution activity is insufficient. *Id.* at 2357-59. Taking an abstract idea and adding such "'well-understood,'" "'routine,'" or "'conventional'" activities risks preempting the idea itself and contributes nothing to the public store of knowledge—and so does not satisfy § 101. *Id.* at 2359 (citation omitted). These principles apply equally, regardless of whether a claim is couched as a method, system, apparatus, or otherwise. *Id*. at 2360. The courts must "look to the underlying invention for patent-eligibility purposes." *CyberSource Corp. v. Retail Decisions, Inc*., 654 F.3d 1366, 1374 (Fed. Cir. 2011).

Applying that framework in *Alice*, the Supreme Court held patent ineligible over 200 computer method, media, and system claims that were directed to an abstract idea (intermediated settlement) and implemented using generic computer functionality (such as sending and receiving data and issuing automated instructions). 134 S. Ct at 2359-60. Applying those same principles, the Federal Circuit has repeatedly found computer-implemented claims invalid under § 101. *See, e.g*., *Intellectual Ventures*, 2015 WL 4068798, at *3-7; *Internet Patents Corp*., 790 F.3d at 1347-48; *OIP Techs., Inc. v. Amazon.com, Inc*., 788 F.3d 1359, 1362-64 (Fed. Cir. 2015); *Content Extraction*, 776 F.3d at 1347-49; *Ultramercial*, 772 F.3d at 716-17. Numerous district courts have done the same. *Supra* at 8-9 & n.5.

Samsung's asserted '938 patent claims are invalid under § 101 because they (1) are directed to an abstract idea and (2) do no more than implement that abstract idea in a technological environment using generic computer components and other conventional features.

A.   *Alice* Step One: The '938 Claims Are Directed To The Abstract Idea Of Delaying, As Necessary, To Ensure Sufficient Time Between Two Actions

The asserted '938 patent claims are directed to the abstract idea of delaying, as necessary, to ensure that a certain amount of time has passed after one action before a second action is

performed. In other words, after a first action, if the second action occurs too soon, its execution must be delayed.   The claims merely recite that concept in a technological context—*i.e.*, providing that if an SDRAM receives a column access command too soon after a row access command then it must delay before executing the column access command. *Supra* at 7-8. Representative claim 19, for example, recites checking whether the column access command is received too soon (*i.e.*, "RCL is less than [RCL$_{min}$]") and, if so, the column access command must be delayed; if not, then no delay is necessary. *Supra* at 7. The other claims recite the same idea in the same basic way. *See* '938 patent cl. 8, 17, 20, 23, 24; *supra* at 7-8.[6] As Samsung admitted, "the nub of the invention … is a way of internally delaying commands so that they can be processed." Tech Tr. at 175:12-16.

It is plain, therefore, that the "heart" of the '938 patent claims—the "most important aspect"—is the abstract concept of delaying a second action, as necessary, to ensure a certain amount of time has passed after a first action. *See Ultramercial*, 772 F.3d at 714 ("heart" of computer claims was abstract idea); *Accenture*, 728 F.3d at 1344 (same); *Internet Patents Corp*., 790 F.3d at 1348 ("essential, 'most important aspect'" of computer claims was abstract idea). That abstract idea "does not become nonabstract by limiting [it] to a … technological environment." *Intellectual Ventures*, 2015 WL 4068798, at *2.

The idea at the heart of the '938 patent claims is akin to, but more abstract than, the ideas underlying computer-implemented claims that the Supreme Court and Federal Circuit have recently held invalid. For example, similar to the '938 patent claims, the ineligible computer-implemented claims in *Alice* and *Ultramercial* were directed to abstract ideas for delaying an

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[6] All asserted claims are substantially the same for § 101 purposes and need not be considered separately. *See Content Extraction*, 776 F.3d at 1348 (holding district court properly invalidated 242 computer claims based on representative claims). They remain invalid even if considered separately, for the reasons discussed below.

action: Delaying financial transactions until the end of the day, ensuring both parties have sufficient assets, and then allowing transactions to proceed (*Alice*, 134 S. Ct. at 2359) and delaying access to free content until the user first watches an advertisement (*Ultramercial*, 772 F.3d at 715).

The concept underlying the '938 patent claims is also far more abstract than the computer-implemented algorithms and formulas that the Supreme Court found ineligible in *Benson* and *Flook*.   In *Benson*, the Supreme Court addressed claims reciting several specific computer steps for converting binary coded decimal numbers into pure binary.   Much like the asserted claims of the '938 patent, one of the ineligible claims in *Benson* provided steps such as "testing each binary digit position '1,' beginning with the least significant binary digit position"; "if a binary '0' is detected, repeating [that] step … for the next least significant binary digit position"; "if a binary '1' is detected, adding a binary '1' at the $(i + 1)$th and $(i + 3)$th"; and repeating variants on those steps multiple times.   409 U.S. at 73-74.   And much like the asserted claims of the '938 patent, another ineligible claim recited "storing the binary coded decimal signals in a reentrant shift register" and "shifting the signals."   *Id*.   Although the *Benson* claims recited algorithms (*e.g.*, for checking whether a condition is met before performing another action) performed using computer components (such as a "shift register"), the Supreme Court held that the underlying binary-conversion idea was a patent-ineligible abstract idea.   *Id*. at 64. The Court further explained that the algorithms could even be done "without a computer"— "[t]he conversion of BCD numerals to pure binary numerals can be done mentally."   *Id.* at 68.

Similarly, in *Flook*, the Supreme Court held ineligible claims reciting a computer-implemented process for computing an updated alarm limit consisting of three steps: "an initial step which merely measures the present value of the process variable (*e.g.*, the temperature); an

13

intermediate step which uses an algorithm to calculate an updated alarm-limit value [using the formula $B_0(1.0\text{-}F) + PVL(F) + K$]; and a final step in which the actual alarm limit is adjusted to the updated value." 437 U.S. at 585, 596-97. The Court found that, although the claims were performed on computers and limited to a particular technological context (catalytic conversion of hydrocarbons), they were, at root, "directed essentially to a method of calculating, using a mathematical formula," which is an ineligible abstract idea under § 101. *Id.* at 594-95 (quotation marks and citation omitted).

The same is true here of the even less detailed—and more abstract—idea of ensuring sufficient time between performing the row access command and the column access command. The '938 claims only provide that, if the column access command is received too soon (RCL is less than RCL$_{min}$), the column access command must be delayed and, otherwise, it may be executed right away. As in *Benson* and *Flook*, that at most involves comparing numbers and using simple arithmetic, which can be performed mentally or by pencil and paper calculations. *See supra* at 3-4. As in *Benson* and *Flook*, the '938 patent claims are directed to an abstract idea even though the idea is expressed as an algorithm and implemented using basic computer components.

The abstract delay concept is also more abstract than the abstract ideas underlying ineligible computer-implemented claims in several other recent controlling decisions, including the ideas of extracting, recognizing, and storing data (*Content Extraction*, 776 F.3d at 1345), calculating an optimal price based on customer reactions to past offers (*OIP*, 788 F.3d at 1362), tailoring data based on a user's characteristics and website navigation data (*Intellectual Ventures*, 2015 WL 4068798, at *4-5), and retaining information in the navigation of online forms

(*Internet Patents Corp.*, 790 F.3d at 1348).   In such cases, as here, although the claims were embellished with computer components, the underlying ideas were nonetheless abstract.

In fact, the purported solution recited in the claims (delaying an action, as needed, for a certain period of time) is well-established in human experience and can be performed with or without computers—indeed, even mentally.   For example, children are supposed to wait 30 minutes after eating before going swimming.   If a child arrives at the swimming pool too soon after a meal, she must wait.   Similarly, patients must wait a certain amount of time after eating before taking certain medications.   If the patient is handed a pill too soon, he must delay taking it until the minimum amount of time has passed.   The abstract idea of ensuring sufficient time elapses between two actions (delaying the second action as necessary) is a basic tool—a "building block[] of human ingenuity"—that cannot be monopolized. *Alice*, 134 S. Ct. at 2354.

B.   *Alice* Step Two: The '938 Claims Add Nothing Inventive To The Abstract Idea

The asserted '938 patent claims fail *Alice*'s second step because they add nothing inventive to the abstract delay concept. *See Alice*, 134. S. Ct. at 2359-60. At most, the claims recite performing the idea in a particular technological environment using conventional computer components and functions, which is insufficient to make claims patent eligible under § 101. *See id.*

In *Alice*, the Supreme Court held that the claims' use of a computer to "obtain data," "track[] multiple transactions," "adjust account balances," and "issue automated instructions" in real time are "the most basic functions of a computer." *Id.* at 2359. Such functions, the Court recognized, "are 'well-understood, routine, conventional activit[ies]' previously known to the industry," and therefore insufficient to convert the abstract idea of intermediated settlement to a patent-eligible application under § 101. *Id.* (alteration original) (citation omitted). And the

Court held that reciting "purely functional and generic" components that "[n]early every computer will include"—such as "a 'data processing system' with a 'communications controller' and 'data storage unit'"—also provides no "meaningful limitation beyond generally linking the use of the method to a particular technological environment." *Id.* at 2359-60 (internal quotations and citations omitted). The same conclusion follows in this case as to the computer components and functions in the asserted '938 patent claims.

All of the computer components in the asserted independent claims are well-understood, routine, and conventional. *See* '938 patent cl. 8, 19, 23, 24; *supra* at 7-8. The claims recite "a memory bank" with "memory cells arranged in rows and columns" that is synchronized to the computer processor's "clock signal" (cl. 8, 19, 23, 24)—which the specification admits is "conventional." '938 patent 1:59; *see also id.* at 1:16, 2:9-11. The specification also acknowledges that "SDRAM" is just one "conventional" type of computer memory. '938 patent 1:59. The specification further makes clear that the various other recited features, including a "decoder" to access the proper row and column (cl. 8, 19) and a "sense amplifier" to amplify the accessed data (cl. 8, 24), are equally conventional—the basic components used in accessing memory. *See* '938 patent at 3:13-14, 3:24-27, 8:1-14; Tech Tr. at 163:13-19. A "shift register" (cl. 8) is also a well-known hardware component, which the Court construed as "a circuit including a register for delaying." CC Op. at 45; *see also, e.g.*, '938 patent at 2:14. And a "delay counter" (cl. 8) is just a functional component for measuring the amount of time between different events, such as the time between receiving the row and column access commands. *See* '938 patent at 2:16-19.

Those components are indistinguishable from the "purely functional and generic components" that did not make the claims patent eligible in *Alice*, 134 S. Ct. at 2360 ("data

16

processing system," "communications controller" and "data storage unit"), *Benson*, 409 U.S. at 67, 73-74 (computer hardware including "shift registers"), and numerous other cases. *See, e.g.*, *Intellectual Ventures*, 2015 WL 4068798, at *6 ("conventional computer components, such as a database and processors"); *Content Extraction*, 776 F.3d at 1345 (computer "memory"); *Accenture*, 728 F.3d at 1338-39 (specific "databases," "event processor," "task engine," "client component," and "task assistant"); *Bancorp Servs. L.L.C. v. Sun Life Assurance Co. of Canada*, 687 F.3d 1266, 1274, 1278 (Fed. Cir. 2012) ("particular computing devices, such as a 'generator,' a 'calculator,' and 'digital storage'").[7]   Here, as in such cases, "linking 'the use of the [abstract delay concept] to a particular technological environment,' that is, implementation via computers," cannot make the claims patent-eligible at *Alice* step two. *Alice*, 134 S. Ct. at 2360 (citation omitted).   Likewise, couching some claims as a memory apparatus (as in claims 8 and 19) rather than a method (as in claims 23 and 24) also does not alter the analysis. *See id.* The apparatus claims, drafted to perform the same basic concept, "are no different from … method claims in substance" and thus fail for the "same reasons." *Id.*; *see also, e.g.*, *CyberSource*, 654 F.3d at 1374.

All of the computer functions in the independent claims—retrieving, sensing, comparing, and determining data and delaying instructions until the proper time—are equally conventional and indistinguishable from functions courts have repeatedly found non-inventive. *See* '938 patent cl. 8, 19, 23, 24.   As discussed, in *Alice*, the claims recited tracking parties' assets,

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[7] *See also, e.g.*, *Enfish, LLC v. Microsoft Corp.*, 56 F. Supp. 3d 1167, 1176-77 (C.D. Cal. 2014) (ineligible claims recited computer "memory" configured to store information based on "logical columns intersecting … logical rows"); *Cloud Satchel, LLC v. Amazon.com, Inc*., --- F. Supp. 3d ----, 2014 WL 7227942 (D. Del. Dec. 18, 2014) (ineligible claims recited computer "memory"); *Landmark Tech., LLC v. Assurant, Inc*., No. 6:15-cv-76, 2015 WL 4388311, at *1 (E.D. Tex. July 14, 2015) (same); *In re TLI Commc'ns*, 2015 WL 627858, at *4 (same); *CertusView*, 2015 WL 269427, at *23 (same).

delaying completion of a transaction until the end of the day, allowing the transaction only if the parties have sufficient assets, and finally issuing instructions—which only required the "most basic" computer functions. 134 S. Ct. at 2352 n.2, 2359. Similarly, in *Ultramercial*, the ineligible claims recited receiving a request for access to copyrighted media and "allowing … access to the media" only after a prerequisite action occurred (*i.e.*, only after the user watched an advertisement). 772 F.3d at 716; *see also, e.g.*, *Benson*, 409 U.S. at 73-74 (converting binary numbers using basic calculations); *Flook*, 437 U.S. at 585, 596-97 (calculating and updating alarm limits based on mathematical formula); *Content Extraction*, 776 F.3d at 1348-49 ("scanning and processing" information to "recognize and store data from specific data fields"); *Intellectual Ventures*, 2015 WL 4068798, at *6 (customizing web pages); *Internet Patents Corp.*, 790 F.3d at 1348-49 (maintaining users' web form entries). The even more basic computer functions here for retrieving data and determining what, if any, delay is necessary before performing the column access command do not make the claims patent eligible.

Moreover, as with the ineligible claims in such cases, the '938 patent claims "do[] not specify how the computer [components] are specially programmed to perform the steps claimed" and the components could be programmed or arranged to perform them in different ways. *Dealertrack*, 674 F.3d at 1333 (citation omitted).[8] Samsung itself argued (and conceded) that the method of "determining" the CAS latency (*i.e.*, the time between receiving the column access

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[8] *See also, e.g.*, *Benson*, 409 U.S. at 68 (ineligible computer claims were "so abstract and sweeping as to cover both known and unknown uses" of the idea); *Internet Patents Corp.*, 790 F.3d at 1348-49 (ineligible computer claims included "no restriction on how the result is accomplished"); *OIP*, 788 F.3d at 1363 (ineligible claims recited no specific "programming"); *Accenture*, 728 F.3d at 1344 ("Although the specification … contains very detailed software implementation guidelines, the system claims themselves only contain generalized software components arranged to implement an abstract concept on a computer."); *Amdocs*, 56 F. Supp. 3d at 820 (claims do not "give any detail regarding how the [computer] records are 'correlated'").

command and outputting the data) "was not intended to be limited in any way" (it does not even necessarily require *any* "computation" as it can be a "simple assignment when certain conditions are met") and the claims do not limit "*where* the determination is made" (it need not be done "by the SDRAM"). *See* CC Op. 40; Samsung CC Br. at 25-27. The Court agreed, imposing no limits on the claims' "determin[ation]." CC Op. 42. Indeed, the "determining" step is at most a simple arithmetic operation that can be performed mentally or with paper and pencil, as discussed (*supra* at 3-4, 14)—which confirms that the claims are ineligible under § 101. *See Benson*, 409 U.S. at 67; *CyberSource*, 654 F.3d at 1373. Performing "more quickly or more accurately" a concept that could otherwise be performed mentally or with pencil and paper is insufficient. *See, e.g.*, *OIP*, 788 F.3d at 1363.

Finally, the remaining limitations recited in the independent and dependent claims also do not confer patent-eligibility. They only further specify that certain data is provided from outside the SDRAM—the delay clock signal in claim 17 and the minimum time for the row access command to be complete ($RL_{min} - CL_{min}$) in claims 20 and 23. But there is nothing inventive about receiving such data from outside the SDRAM—that feature is mere extra-solution activity or "'data-gathering'" that "add[s] nothing of practical significance to the underlying abstract idea." *Ultramercial*, 772 F.3d at 716 (quoting *CyberSource*, 654 F.3d at 1370).[9]

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[9] For similar reasons, the '938 patent claims fail the so-called "machine-or-transformation test"—which, although not the "sole test," has been described as a "useful clue" in finding claims patent-ineligible under § 101. *Bilski*, 561 U.S. at 603.

The claims are not tied to "a particular machine" as they recite generic computer features and provide no detail regarding what specific programming is necessary. *See, e.g.*, *Ultramercial*, 772 F.3d at 716-17; *Dealertrack*, 674 F.3d at 1333-34; *CyberSource*, 654 F.3d at 1373, 1375. Nor do the claims "transform[] a particular article into a different state or thing"—"[t]he mere manipulation or reorganization of data … does not satisfy the transformation prong."

In sum, all of the limitations of the asserted '938 patent claims—individually or collectively—at most recite performing the abstract delay concept in a particular technological environment with conventional, well-known, and routine computer components and functions. Those are precisely the type of claims that are more likely to inhibit rather than promote innovation—precisely the type of claims that *Alice* and § 101 forbid.

V.   CONCLUSION

For the foregoing reasons, Defendants respectfully ask the Court to grant their motion for judgment on the pleadings and hold the asserted claims of the '938 patent invalid under § 101, and grant any other relief the Court deems just.

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CyberSource, 654 F.3d at 1369, 1375. That the claims fail the machine-or-transformation test further confirms that they are invalid under § 101. *See Ultramercial*, 772 F.3d at 716.

20

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CERTIFICATE OF SERVICE

I hereby certify that on this 15th day of August, 2015, I will electronically file the foregoing with the Clerk of the Court using the CM/ECF system, which will then send a notification of such filing (NEF) to the following:

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